



NASA Weekly Update

Week of February 12 - 20, 2007

Feb 17: NASA's THEMIS Mission Launches to Study Geomagnetic Substorms: NASA's THEMIS mission successfully launched Saturday, Feb. 17, at 6:01 p.m. EST from Pad 17-B at Cape Canaveral Air Force Station, Fla. THEMIS stands for the Time History of Events and Macroscale Interactions during



The Delta II rocket with NASA's THEMIS spacecraft aboard lifts off Pad 17-B.

Substorms. It is NASA's first five-satellite mission launched aboard a single rocket. The mission will help resolve the mystery of what triggers geomagnetic substorms. Substorms are atmospheric events visible in the Northern Hemisphere as a sudden brightening of the Northern Lights, or aurora borealis. The findings from the mission may help protect commercial satellites and humans in space from the adverse effects of particle radiation. For more information about the THEMIS mission and imagery on the Web, visit: <http://www.nasa.gov/themis>.

Feb 16: NASA Marks 45th Anniversary of Americans in Orbit: NASA commemorates the 45th anniversary of Americans in orbit with a special multimedia salute to the original Mercury astronauts and new interviews with Sen. John Glenn, Scott Carpenter and Walter

Schirra. On Feb. 20, 1962, an Atlas rocket successfully carried Glenn and the hopes of an entire nation into orbit aboard Friendship 7, a flight that ushered in a new era of space travel that eventually led to Americans walking on the moon by the end of the 1960s. NASA remembers the achievements of its first generation of explorers through special programming and interviews on NASA Television and an extraordinary interactive feature on the agency's Internet site, www.nasa.gov, beginning at noon EST, Friday. To experience the 45th anniversary of Americans in Orbit multimedia feature, visit: <http://www.nasa.gov/mercury>. For more information about NASA TV programming, Video File feed times, visit: <http://www.nasa.gov/ntv>.

Feb 16: NASA Media Teleconference on Planets Beyond our Solar System: Astronomers are scheduled to announce new findings about planets beyond our solar system at a media teleconference Wednesday, Feb. 21, at 10 a.m. PST. The findings are from NASA's Spitzer Space Telescope. Audio of the event will be broadcast live at 1 p.m. on the Web at: <http://www.nasa.gov/newsaudio>. At the start of the briefing, supporting images and graphics will be posted on the Web at: http://www.nasa.gov/mission_pages/spitzer/news/070221/index.html. For more information about the Spitzer Space Telescope, visit: <http://www.nasa.gov/spitzer>.

Feb 15: NASA Mars Orbiter Sees Effects of Ancient Underground Fluids: Liquid or gas flowed through cracks penetrating underground rock on Mars, according to a report based on some of the first observations by NASA's Mars Reconnaissance Orbiter. These fluids may have produced conditions to support possible habitats for microbial life. These ancient patterns were revealed when the most powerful telescopic camera ever sent to Mars began examining the planet last year. Okubo and McEwen report these findings in the Feb. 16 edition of the journal Science. Images showing the haloes along fractures are available on the Web at: http://www.nasa.gov/mission_pages/MRO/news/20070215.html.

Feb 15: STS-118 In-Flight Education Downlink

Opportunity: NASA is seeking formal and informal education institutions and organizations individually or working together, to host live, in-flight education downlinks during STS-118, the first flight of an Educator Astronaut, Barbara Morgan. The deadline to submit an application for STS-118 downlinks is March 9, 2007. Information on the mission and related education activities can be found at www.nasa.gov/sts118.

Feb 15: Joint NASA Study Reveals Leaks in

Antarctic 'Plumbing System': Scientists using NASA satellites have discovered an extensive network of waterways beneath a fast-moving Antarctic ice stream that provide clues as to how "leaks" in the system impact sea level and the world's largest ice sheet. Antarctica holds about 90 percent of the world's ice and 70 percent of the world's reservoir of fresh water.

Feb 17: NASA Moves Apollo 1 Capsule to New

Storage Facility: NASA moved the Apollo 1 capsule and related materials approximately 90 feet to a newer, environmentally-controlled warehouse at NASA's Langley Research Center in Hampton, Va., on Saturday, Feb. 17. The move provides better protection for the spacecraft. For more information on the Internet about Apollo 1, visit: <http://history.nasa.gov/Apollo204/>.

Feb 16: NASA Commercial Space Partners

Complete Milestones: Two companies that are receiving NASA Commercial Orbital Transportation Services funds achieved significant milestones this month in their efforts to develop and demonstrate space cargo launch and delivery systems. Space Exploration Technologies (SpaceX) completed a preliminary design review for its first orbital demonstration mission. Rocketplane Kistler completed a system requirements review for its cargo services system.

Weekly Status Reports



This week, the Expedition 14 crew continued to focus on preparation for their final planned spacewalk ahead of the space shuttle Atlantis' arrival in March. This comes following an unexpected circuit

breaker trip on the International Space Station and subsequent resetting of affected equipment. As Atlantis was moved to the launch pad this week, station Commander Mike Lopez-Alegria and Flight Engineer Mikhail Tyurin conducted leak checks of the Russian Orlan spacesuits they will wear for their Feb. 22 venture outside the station. They installed some additional equipment on the suits, including lights that will assist in their tasks.

Friday, the crew verified the suits' readiness by conducting telemetry and communications checks with flight controllers in Russia at the Mission Control Center in Korolev. The spacewalk will be the fifth by the Expedition 14 crew, a record for a station crew. It will be the fourth spacewalk conducted from the space station in the past three weeks. The spacewalk, scheduled to begin at approximately Feb. 22 at 4 a.m. CST, is expected to last six hours. NASA Television and www.nasa.gov will broadcast the event live, beginning at 3 a.m. The spacewalkers will attempt to free a stuck antenna on the Progress 23 cargo craft that is docked at the aft end of the station. The antenna did not properly retract when the supply vessel docked in October. Securing or removing the antenna is necessary to allow the Progress to undock in April. Additionally, they will survey docking navigation systems for the European Automated Transfer Vehicle, a cargo spacecraft scheduled to make its maiden voyage this summer. The spacewalk will be the 10th for Lopez-Alegria, a record for a U.S. astronaut. For more about the crew's activities and station sighting opportunities, visit: <http://www.nasa.gov/station>.



Upcoming Events

- **Feb 27 – 28:** NASA Senate Days
- **Feb 29:** New Horizons will make its closest pass to Jupiter on Feb. 28, threading its path through an "aim point" 1.4 million miles (2.3 million kilometers) from the center of Jupiter.
- **NET March 15:** Launch of Space Shuttle Atlantis from Kennedy Space Center.
- **March 19:** Landing of the Expedition 14 crew at Kazakhstan's Baikonur Cosmodrome.
- **NET March:** Launch of the Expedition 15 crew. The crew includes Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov. Williams will finish her remaining time of her six-month tour of duty on the station as a member of Expedition 15 crew.

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